



# **ELECTRICAL CURRENTS**

*Newsletter from the Office of the Chief Electrical Inspector*

Ron Fuller, Chief Electrical Inspector

Vol. 6 No. 2

February 2003

## ● **Adoption Of 2002 NEC And WAC Revisions Nearing Completion**

At their January 30, 2003 meeting, the Electrical Board unanimously recommended approval of the department's electrical rules revisions. Electrical and HVAC/R industry representatives testified that they had reached compromise on the difficult HVAC/R scope-of-work revisions. Although some issues remain unresolved and will be addressed again in future revision proposals, spokesmen from both sides unanimously supported proceeding with the current rules package. **The additional meetings that were needed to reach compromise have pushed the "target" effective date of the 2002 NEC and WAC rules to early May 2003.** There will be no transition period like we have allowed in the past.

The dates for public hearings have been tentatively set for 1-5 PM at the following L&I service locations:

- March 25, 2003—Tumwater, Everett, Yakima, and East Wenatchee
- March 26, 2003—Vancouver, Tukwila, Kennewick, and Spokane

The proposed rules will be posted on the Electrical Program website about February 20, 2003. If you want to be assured of timely notification of the finalized hearing locations, times, and dates you must sign up for our list server automatic e-mail notification at: <http://listserv.wa.gov/archives/electrical.html>. Click on "[Join or leave the list](#)", then fill in the necessary information to subscribe.

## ● **Factory Assembled Structures (FAS) Inspections**

All remodel and renovation work (e.g. electrical, plumbing, structural, mechanical, etc.) done within a manufactured home must be permitted and inspected by the FAS program. Unlike the Electrical Program rules, FAS rules for permitting allow the general contractor to cover all trades involved in a remodel or renovation inside a manufactured home. Under the FAS rules, a single FAS permit may be purchased to cover multiple trades and contractors.

## ● **Employment Register For State Electrical Inspector Positions**

Effective January 10, 2003, the Department of Personnel's board approved a request that all new applicants for L&I Electrical Inspector positions possess either a General Administrator or Master Journeyman Electrician certificate in addition to the statutory minimum qualifications already in place (see RCW 19.28.321). This will eliminate the need for a register examination. There will be no ranking of applicants as we have had in the past. All qualified applicants will be posted when a supervisor requests a hiring referral. The previous Electrical Inspector register is abolished and all candidates who are currently on it must reapply and meet the new requirement.

## ● **NEW WAC PROPOSAL-Emergency Disconnecting Means-Service Stations**

The emergency disconnecting means required by 2002 National Electrical Code (NEC) 514.11 and Washington Administrative Code (WAC) 296-46A-514 (soon to be WAC 296-46B-514) are required to be in specific locations in attended and unattended fuel dispensing stations for gasoline and other volatile, flammable types of gases or liquids. In Washington the emergency disconnecting means must be located outdoors, red in color, and labeled with a red identification plate with 1-inch letters. Emergency controls must shut off all power to all dispensing equipment at the station.

For attended facilities, the disconnect must be within sight and not more than 50 feet from the pump or dispensing equipment.

For unattended facilities, the proposed rule change requires the disconnect to be within sight, not closer than 20 feet, and not more than 50 feet from the pump or dispensing equipment. To reduce the possibility of accidentally re-energizing equipment during an "emergency shutdown" situation, the proposed rule requires that if an electrically held contactor and disconnecting pushbutton is used, the pushbutton may

not function as the resetting mechanism for the electrically held contactor. The resetting means must be: **a)** located at least 15 feet away from or out of sight from the disconnecting pushbutton; **b)** installed behind a cover or guard; and **c)** identified with an identification plate that is substantially black in color.

### ● **NEW WAC PROPOSAL-Marking On Motors And Multi-Motor Equipment**

The NEC or WAC requires listing for some special motors (e.g. classified locations, fire pumps, and swimming pool/hot tub/spa). Other motors must be manufactured to appropriate safety standards. Though motors listed to the relatively new UL 1004—Electric Motors standard are beginning to be available, a new proposal in WAC 296-46B-430 will make it clear that:

There is no requirement that all motors be listed or field evaluated. In general, motors must be manufactured to National Electrical Manufacturers Association (NEMA) standards for motors. However, this requirement does not apply to motors that are a component part of equipment listed or field evaluated by a laboratory or are a component part of industrial utilization equipment approved by the department per WAC 296-46B-030.

### ● **NEW WAC PROPOSAL-Flexible Supply Whips For Equipment**

The 06A—HVAC/R, New 06B—HVAC/R Restricted, and New 07E—Equipment Repair specialty electricians are specifically allowed to “*repair, replace, or maintain line voltage flexible supply whips not over 6’ in length, provided there are no modifications to the characteristics of the branch circuit/feeder load being supplied by the whip.*” There is no limitation on the whip raceway method. This means that liquidtight flexible metal conduit, flexible metal conduit, or other type of raceway may be replaced with liquidtight flexible nonmetallic conduit, or vice versa, as long as NEC grounding and environmental requirements are met, and the raceway is listed and approved for the application.

Installation requirements for these types of raceways are in the appropriate (raceway-specific) section of 2002 NEC Chapter 3. Equipment grounding and bonding requirements are addressed in 2002 NEC 250.102, .134, and .118. With the ability of the above specialties to do this maintenance work, comes the responsibility for exam candidates to show competence with the materials and wiring methods on the electrician exams.

### ● **Inspection When Telecommunications Conductors Are Fished Into Walls**

Department electrical inspectors are receiving cover inspection requests from some telecommunications contractors when the installation only consists of mud-rings and pull-strings placed to allow installation of cables later in the project. This type of cover inspection is not required, however you will be charged for the inspection trip if you request it. A “mud-ring and pull-string” inspection does not replace the mandatory inspection of the telecommunications cables installed, supported, and secured within the structure, even when the cable ends are “fished” into finished walls. Failure to have a cabling installation inspected is a violation subject to citation. A cable inspection must be requested and made.

### ● **Electrical Question of the Month**

**This Month’s Question:** The grounding conductor connected to the available electrodes for a feeder panel fed from a separate building shall be sized per 2002 NEC \_\_\_\_\_, based on the size of the \_\_\_\_\_.

A) 250.66, main breaker; B) 250.122, overcurrent device protecting the feeder; C) 250.122, main breaker; D) 250.66, conductors feeding the panel.

**Last Month’s Question:** According to the 2002 NEC, 15- and 20-ampere, 125- and 250-volt receptacles installed outdoors in a wet location where the product intended to be plugged into it will be attended while in use (e.g., portable tools, etc.) shall have an enclosure that is weatherproof when the attachment plug cap is inserted. A) True; B) False.

**The answer is:** A) True [2002 NEC 406.8(B)(1)]